MANAGING OUR NATURAL RESOURCES

Curriculum Content Framework

Please Note: All assessment questions will be taken from the knowledge portion of these frameworks.

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Spring 2008

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Curriculum Content Framework
MANAGING OUR NATURAL RESOURCES

Grade Levels: 10, 11, 12
Course Code: 491310
Prerequisite: None

Course Description: Students will explore natural resources (soil, water, air, forests, energy, minerals and metal, and wildlife) and develop the knowledge and skills to use them wisely. Other issues include outdoor recreation, careers, and the environment.

Table of Contents

Unit 1: Introduction to Natural Resources
4 Hours

Terminology: Career Development Event (CDE), Environment, Natural resource, Natural resource interaction, Natural resource interdependence, Nonrenewable natural resource, Renewable natural resource, Supervised Agricultural Experience (SAE)

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				**ACADEMIC AND WORKPLACE SKILLS** What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
1.1	Define terms	1.1.1	Match terms with definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6] Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23]
1.2	List natural resources and how they are utilized by humans	1.2.1 1.2.2	Identify natural resources used in your area Write a report on how you personally use natural resources	Foundation	Writing	Composes and creates documents –letters, manuals reports, proposals, graphs, flow charts, ect. [1.6.8] Evaluates written information for appropriateness/content/clarity [1.6.9] Takes notes from various sources [1.6.18]
1.3	Identify careers in natural resources	1.3.1	Research a career in natural resources to determine educational requirements, working conditions, and salary	Foundation Personal Management	Reading Career Awareness, Development, and Mobility	Applies information to job performance [1.3.4] Uses standard occupational resource materials [1.3.22] Develops skills to locate, evaluate, and interpret career information [3.1.4] Explores career opportunities [3.1.6]
1.4	Discuss FFA opportunities available to students interested in natural resources	1.4.1	Use FFA resources to identify CDEs, SAEs, and Proficiency awards related to the natural resources area	Foundation Personal Management	Listening Career Awareness, Development, and Mobility	Listens for content [1.2.3] Listens for emotional meaning [1.2.5] Identifies education and training needed to achieve goals [3.1.8]

Unit 2: Safety in Natural Resources
3 Hours

Terminology: Accident, Hazard, Material safety data sheet (MSDS), Risk, Safety

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
2.1	Define terms	2.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
2.2	Discuss the meaning and importance of safety and safe work with natural resources	2.2.1	Relate examples of safety hazards associated with natural resources.	Foundation	Reading	Distinguishes between fact and opinion [1.3.11]
		2.2.2	Have students name examples of accidents that have occurred locally in natural resources work		Speaking	Asks questions to obtain information [1.5.4]
						Communicates a thought, idea, or fact in spoken form [1.5.5]
				Personal Management Skills	Integrity/Honesty/ Work Ethic	Complies with safety and health rules in a given work environment [3.2.2]
2.3	Identify hazards in natural resources	2.3.1	Survey hazardous situations in local natural resources facilities and prescribe the appropriate safety measures to be taken and propose ways of eliminating or reducing the risk of these hazards	Foundation	Reading	Analyzes and applies what has been read to specific task [1.3.2]
		2.3.2	Develop a list of practices to reduce risk when working with natural resources	Personal Management Skills	Integrity/Honesty/ Work Ethic	Complies with safety and health rules in a given work environment [3.2.2]
2.4	Describe the importance of personal safety in natural resources	2.4.1	Identify and properly use appropriate personal protective equipment (PPE) with natural resources	Thinking	Problem Solving	Demonstrates logical reasoning in reaching a conclusion [4.4.2]
		2.4.2	Calculate the cost of personal protective equipment (PPE) for an individual involved with natural resources			Recognizes/Defines problem [4.4.8]
		2.4.3	Work together with others to promote safety in natural resources	Foundation	Arithmetic/ Mathematics	Calculates dollar amounts [1.1.7]
		2.4.4	Take a test on natural resources safety before beginning work	Interpersonal	Negotiation	Works to resolve conflict between two or more individuals [2.5.3]

Unit 3: Soil Management
5 Hours

Terminology: Organic matter, Parent material, Soil, Soil conservation, Soil erosion, Soil horizon, Soil profile, Soil structure, Soil texture

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
3.1	Define terms	3.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6] Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23]
3.2	List the components of soil	3.2.1	Conduct a soil sedimentation test	Foundation	Science	Describes/Explains scientific principles related to soil [1.4.14]
		3.2.2	Examine soil under a microscope			
3.3	Differentiate between natural and accelerated erosion	3.3.1	Identify examples of erosion in the local area	Foundation Thinking	Speaking Reasoning	Asks questions to clarify information [1.5.3] Uses logic to draw conclusions from available information [4.5.6]
3.4	Explain methods used in controlling erosion	3.4.1	Differentiate between rural erosion control and urban erosion control	Foundation Thinking	Reading Reasoning	Determines what information is needed [1.3.10] Sees relationship between two or more ideas, objects, or situations [4.5.5]
3.5	Discuss factors used to determine land capability classes	3.5.1	Evaluate local sites to determine land capability classes	Foundation Thinking	Reading Decision Making	Distinguishes between fact and opinion [1.3.11] Evaluates information/data to make best decision [4.2.5]

Unit 4: Water Management
8 Hours

Terminology: Aquifer, Groundwater, Hydrologic cycle, Potable water, Runoff water, Surface water, Water, Watershed

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
4.1	Define terms	4.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
4.2	Identify and discuss the users of water (e.g., agricultural, municipalities, industry)	4.2.1	Invite a representative from a local plant to discuss its water use and the environmental regulations it must follow	Foundation	Listening	Listens for content [1.2.3]
4.3	List the types of water pollutants (e.g., pesticides, animal waste, sewage, sediment)	4.3.1	Identify local sources of water pollution	Foundation	Reading	Determines what information is needed [1.3.10]
		4.3.2	Identify various water testing methods	Thinking	Knowing how to Learn	Uses available resources to acquire new skills or improve skills [4.3.4]
4.4	Discuss the procedures for treating water for use	4.4.1	Invite local water department employees to explain local treatment procedures	Foundation	Science	Chooses appropriately from a variety of scientific methods and techniques to complete a task [1.4.9]
		4.4.2	Tour a wastewater treatment plant to observe the procedures used	Personal Management	Integrity/Honesty/ Work Ethic	Complies with safety and health rules in a given work environment [3.2.2]
4.5	Explain the importance of planning for future water needs	4.5.1	Debate water rights issues in the United States	Foundation	Writing	Organizes information into an appropriate format [1.6.10]

Unit 5: Energy Resources and Management
8 Hours

Terminology: Biodiesel, Biofuels, Coal, Crude oil, Ethanol, Geothermal energy, Global warming, Greenhouse effect, Hydropower, Natural gas, Nuclear energy, Seismograph, Solar energy

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
5.1	Define terms	5.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
5.2	Discuss the use of energy resources in the United States	5.2.1	Report on energy consumption in the United States.	Foundation Thinking Foundation	Reading Decision Making Writing	Comprehends written information, and applies it to a task [1.3.8] Evaluates information/data to make best decision [4.2.5] Composes and creates documents –letters, manuals reports, proposals, graphs, flow charts, ect. [1.6.8] Evaluates written information for appropriateness/content/clarity [1.6.9] Takes notes from various sources [1.6.18]
5.3	Identify sources of energy	5.3.1	Research an energy source (coal, oil, gas, nuclear energy, solar, geothermal, biofuels, hydropower, or wind), and present a group report to the class	Foundation Thinking	Science Reading Reasoning	Describes/Explains scientific principles related to energy [1.4.14] Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23] Uses logic to draw conclusions from available information [4.5.6]
5.4	Discuss concerns related to the use of fossil fuels	5.4.1	Research the effect of fossil fuel emissions on the environment	Foundation	Science	Acquires and processes scientific data [1.4.1]
5.5	List and discuss ways to conserve energy	5.5.1	Develop a plan to reduce energy consumption	Foundation Interpersonal	Writing Teamwork	Uses words appropriately [1.6.21] Contributes to group with ideas, suggestions, and effort [2.6.2]

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do			ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	**Application**		**Skill Group**	**Skill**	**Description**
5.6 Discuss farm-raised energy alternatives	5.6.1	Research the present and future uses of biofuels	Foundation	Reading	Comprehends written information, and applies it to a task [1.3.8]
	5.6.2	Debate the advantages and disadvantages of biofuels		Science	Describes/Explains scientific principles related to energy [1.4.14]
	5.6.3	Demonstrate the process of making biodiesel	Thinking	Decision Making	Evaluates information/data to make best decision [4.2.5]
5.7 Explain how global warming influences living systems	5.7.1	Cite examples of species endangered by global warming	Foundation	Science	Describes/Explains scientific principles related to energy [1.4.14]

Unit 6: Mineral and Metal Resources
8 Hours

Terminology: Ferrous metals, Metal, Mineral, Nonferrous metals, Ore, Strip-mining, Subsurface mining, Surface mining

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
6.1	Define terms	6.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6] Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23]
6.2	Identify uses of various minerals and metals	6.2.1	List examples of ferrous and nonferrous metals	Foundation Thinking	Reading Decision Making	Comprehends written information, and applies it to a task [1.3.8] Evaluates information/data to make best decision [4.2.5]
6.3	Explain procedures for extracting minerals and metals from the earth	6.3.1	Report on the procedures use to extract minerals and metals from the earth	Foundation Thinking	Reading Knowing how to Learn	Determines what information is needed [1.3.10] Uses available resources to acquire new skills or improve skills [4.3.4]
6.4	Discuss the availability and management concerns of nonfuel minerals and metals	6.4.1	List known reserves of different minerals	Foundation Thinking	Speaking Reasoning	Applies/Uses technical terms as appropriate to audience [1.5.2] Determines which conclusions are correct when given a set of facts and a set of conclusions [4.5.3]

Unit 7: Forestry Management
8 Hours

Terminology: Board foot, Cord, Cruising, Dendrometer, Diameter breast height (DBH), Forest, Forester, Forestry, Harvest cutting, Hypsometer, Intermediate cutting, Timber stand improvement, Tree, Tree height

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
7.1	Define terms	7.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
7.2	Determine the percentage of forest land in Arkansas and the different types of ownership	7.2.1	Determine forest ownership in your county	Foundation Thinking	Arithmetic/ Mathematics Knowing how to Learn	Calculates percentages, ratios, proportions, decimals, and common fractions [1.1.10] Processes new information as related to workplace [4.3.5]
7.3	Identify forest products and how they impact our daily lives	7.3.1	Create a poster, PowerPoint presentation, or other visual that identifies forest products and their uses.	Foundation Thinking	Science Reading Reasoning	Describes/Explains scientific principles related to forest use [1.4.14] Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23] Uses logic to draw conclusions from available information [4.5.6]
7.4	List practices used to manage forests	7.4.1 7.4.2 7.4.3	Demonstrate ways to measure timber Identify different types of cuttings Discuss ways to enhance a forest stand	Foundation Personal Management	Speaking Responsibility	Organizes ideas, and communicates oral messages to listeners [1.5.7] Exhibits enthusiasm in approaching and completing tasks [3.4.3]
7.5	Identify forest disorders and their control	7.5.1	Collect samples showing different types of forest damage	Foundation Thinking	Reading Reasoning	Applies information to job performance [1.3.4] Sees relationship between two or more ideas, objects, or situations [4.5.5]

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
7.6	Identify and discuss environmental concerns associated with forestry	7.6.1	Prepare a report on an environmental issue related to forestry	Foundation	Science Writing	Analyzes environmental issues (ecology, pollution, waste management) [1.4.2] Composes and creates documents –letters, manuals reports, proposals, graphs, flow charts, ect. [1.6.8] Evaluates written information for appropriateness/content/clarity [1.6.9] Takes notes from various sources [1.6.18]
7.7	Identify tools and equipment used in forestry	7.7.1	Conduct a safety demonstration on the use of tools	Foundation Personal Management	Speaking Responsibility	Organizes ideas, and communicates oral messages to listeners [1.5.7] Exhibits enthusiasm in approaching and completing tasks [3.4.3]

Unit 8: Fish and Wildlife
11 Hours

Terminology: Amphibian, Aquatic, Biennial, Canopy, Carrying capacity, Community, Cover, Domesticated animal, Ectothermic, Edge, Endothermic, Habitat, Home range, Limnetic zone, Littoral zone, Mammals, Mast, Perennial, Population, Predator, Prey, Reptile, Shrub, Terrestrial, Territory, Tree, Understory, Vine, Wildlife, Wildlife animal

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				**ACADEMIC AND WORKPLACE SKILLS** What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
8.1	Define terms	8.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
8.2	Identify species of fish and wildlife found in Arkansas	8.2.1	Do reports about wildlife and fish found in Arkansas	Foundation	Science	Acquires and processes scientific data [1.4.1]
		8.2.2	Take photographs and make videos of wildlife in Arkansas	Thinking	Knowing how to Learn	Organizes and processes images – symbols, pictures, graphs, objects, etc. [4.6.2]
8.3	Discuss how wildlife populations declined and how they have been brought back to present populations	8.3.1	Compare the current populations of various species to those populations 100 years ago	Foundation	Reading	Uses graphs/charts/tables to obtain factual information [1.3.21]
		8.3.2	Report on the recovery of certain species that had declined		Science	Analyzes environmental issues (ecology, pollution, waste management) [1.4.2]
				Thinking	Reasoning	Comprehends ideas and concepts related to changes in populations [4.5.2]
8.4	List the components of habitat	8.4.1	Do a survey of personal property to determine ways to improve wildlife habitat	Foundation	Science	Acquires and processes scientific data [1.4.1]
		8.4.2	Use a web diagram to show the relationship between all the components of a habitat			
		8.4.3	Construct a food plot on school grounds			
8.5	Explain how hunting can be beneficial to some wildlife populations	8.5.1	Complete a Hunter Safety Course	Foundation	Speaking	Interprets nonverbal cues – such as eye contact, posture, and gestures – for meaning [1.5.6]
				Personal Management	Integrity/Honesty/ Work Ethic	Follows established rules, regulations, and policies [3.2.5]

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do			ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	**Application**		**Skill Group**	**Skill**	**Description**
8.6 Discuss freshwater fish management	8.6.1	Identify different types of freshwater fish	Foundation	Reading	Identifies relevant details, facts, and specifications [1.3.16]
	8.6.2	Demonstrate ways to measure freshwater fish populations	Personal Management	Responsibility	Pays close attention to details [3.4.8]
	8.6.3	Discuss ways to enhance a freshwater fish habitat			
8.7 Discuss the role climate plays on habitat types	8.7.1	List climatic factors for the major habitat types	Foundation	Listening	Listens for conversation [1.2.4]
				Speaking	Participates in conversation, discussion, and group presentations [1.5.8]
			Interpersonal	Cultural Diversity	Works effectively with men and women from diverse backgrounds – ethnic, social, educational, etc. [2.2.5]
8.8 Discuss the role plant life plays in wildlife habitat	8.8.1	Create a web diagram showing the interrelationships between plants and wildlife for a local ecosystem	Foundation	Speaking	Speaks effectively, using appropriate eye contact, gestures, and posture [1.5.11]
			Personal Management	Responsibility	Exhibits enthusiasm in approaching and completing tasks [3.4.3]

Unit 9: Planning for the Future
5 Hours

Terminology: Conservation, Conservationist, Exploitation, Preservation, Recycling, Resource depletion

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
9.1	Define terms	9.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
9.2	Identify concerns about the future availability of natural resources	9.2.1	Discuss natural resources that could be depleted in the near future	Foundation Thinking	Reading Seeing Things in the Mind's Eye	Analyzes and applies what has been read to specific task [1.3.2] Organizes and processes images – symbols, pictures, graphs, objects, etc. [4.6.2]
9.3	Explain how recycling can be better used to conserve natural resources	9.3.1	Visit a local recycling business	Foundation Personal Management	Science Responsibility	Applies a scientific principle to solve a problem [1.4.8] Sets high standards for self in completion of a task [3.4.9]
9.4	Discuss current issues regarding the use of natural resources	9.4.1	Debate issues regarding the use of natural resources, using the class as a forum	Foundation Interpersonal	Speaking Leadership	Uses verbal language and other cues, such as body language, appropriate in style, tone, and level of complexity to the audience and the occasion [1.5.14] Helps an individual or group challenge existing procedures, policies, or authority [2.4.7]
9.5	Explain the role of government agencies in planning for natural resource management (e.g., NRCS/County Soil and Water Districts, EPA, ADEQ)	9.5.1	Invite a representative from a government agency to address the class on the agencies role in natural resource management	Foundation	Science	Analyzes environmental issues (ecology, pollution, waste management) [1.4.2]
		9.5.2	Create a chart showing the role of various government agencies in natural resource management	Thinking	Reasoning	Determines which conclusions are correct when given a set of facts and a set of conclusions [4.5.3]
9.6	Determine ways students can be involved in planning for natural resource management	9.6.1	Develop a recycling program for your school or community as a SAE or a community development project	Foundation Interpersonal	Speaking Teamwork	Communicates a thought, idea, or fact in spoken form [1.5.5] Takes an interest in what others say and do [2.6.5]

Glossary
Unit 1: Introduction to Natural Resources

1. Career Development Event (CDE) ─ an activity sponsored by the FFA offering members the opportunity to display competencies gained in agriculture education classes
2. Environment ─ all the factors that affect a living thing
3. Natural resource ─ a naturally occurring material or organism that supports life, provides fuel, or is used in other ways by humans
4. Natural resource interaction ─ the action of natural resources on one another
5. Natural resource interdependence ─ all resources depend on each other
6. Nonrenewable natural resource ─ a natural resource that cannot be replaced
7. Renewable natural resource ─ a natural resource that can be replaced
8. Supervised Agriculture Experience (SAE) ─ a program (production, experience, cooperative, or directed lab) operated by an FFA member

Unit 2: Safety in Natural Resources

1. Accident ─ an event that happens unexpectedly or unintentionally
2. Hazard ─ exposure to danger or harm
3. Material safety data sheet (MSDS) ─ a sheet containing information about the safe use and a chemical and the steps to take in case of an accident
4. Risk ─ the chance that an accident might occur during a research project
5. Safety ─ a state of being free of danger and injury

Unit 3: Soil Management

1. Organic matter ─ dead plant and animal material in various stages of decay
2. Parent material ─ those materials underlying the soil from which the soil was formed
3. Soil ─ the layer of natural materials on the earth's surface, containing both organic and inorganic materials, that is capable of supporting plant life
4. Soil conservation ─ use of soil so damage or loss is minimal or nonexistent
5. Soil erosion ─ the process by which soil is removed
6. Soil horizon ─ layers in a mature soil
7. Soil profile ─ a vertical section of a soil at a specific site
8. Soil structure ─ the arrangement of soil particles into shapes and sizes
9. Soil texture ─ the proportion of sand, silt, and clay in soil

Unit 4: Water Management

1. Aquifer ─ an underground stream or pool in sand or gravel layers
2. Groundwater ─ the water beneath the surface of the earth; found in spaces between rocks and soil particles
3. Hydrologic cycle ─ the water cycle
4. Potable water ─ water that is appropriate for human consumption without further purification or boiling
5. Runoff water ─ water that runs on the earth's surface
6. Surface water ─ water on the earth's surface, such as lakes, ponds, and streams
7. Water ─ a colorless, transparent, naturally occurring compound made of hydrogen and oxygen
8. Watershed ─ an area of land from which all the water that does not infiltrate the soil runs to a downhill location

Unit 5: Energy Resources and Management

1. Biodiesel ─ processed fuel made from vegetable oil or animal fats which can be used in unmodified diesel engines
2. Biofuels ─ any plant or animal material that can be used as a fuel
3. Coal ─ fossil fuel in the form of a black or brown rock that developed from plants that died between one and four hundred million years ago
4. Crude oil ─ fossil fuel taken from the earth in a liquid form and then refined into different types of petroleum fuels
5. Ethanol ─ a type of biofuel produced from plant materials; flammable, colorless chemical compound
6. Geothermal energy ─ heated groundwater used as an energy source
7. Global warming ─ the increase in the average temperature of the Earth's near-surface air and oceans
8. Greenhouse effect ─ the process by which the emission of infrared radiation by the atmosphere warms the Earth’s surface
9. Hydropower ─ power produced by capturing the energy of falling water
10. Natural gas ─ fossil fuel taken from the earth in the form of a gas
11. Nuclear energy ─ energy produced by the fission of atomic nuclei
12. Seismograph ─ device using sound waves to find fossil fuels
13. Solar energy ─ heat collected from the sun as an energy source

Unit 6: Mineral and Metal Resources

1. Ferrous metals ─ metals containing iron
2. Metal ─ an element with a metallic luster that is malleable, ductile, and has a high tensile strength
3. Mineral ─ a natural inorganic substance on or in the earth
4. Nonferrous metals ─ metals not containing iron
5. Ore ─ a rock that contains a large amount of a certain mineral
6. Strip-mining ─ a form of surface mining in which the mineral is extracted after removing the soil covering it
7. Subsurface mining ─ methods used to extract minerals from below the surface of the earth
8. Surface mining ─ methods used to extract minerals on or near the earth's surface

Unit 7: Forestry Management

1. Board foot ─ a standard unit of measure for lumber; a piece of lumber 1 inch X 1 foot X 1 foot (or the equivalent) before surfacing
2. Cord ─ a stack of wood 4 feet X 4 feet X 8 feet or the equivalent
3. Cruising ─ the process of estimating the pulpwood or lumber that a standing parcel of trees can produce
4. Dendrometer ─ any device used to measure the diameter of a tree trunk
5. Diameter breast height (DBH) ─ the diameter of the tree trunk, in inches, measured 4.5 feet above the ground
6. Forest ─ a very complex community of associated trees, shrubs, other plants, and animals
7. Forester ─ a professional who plans, manages, and/or supervises a forest
8. Forestry ─ the science of planting and managing forests for specific purposes, such as timber production or conservation
9. Harvest cutting ─ removal of any or all trees in an area for sale
10. Hypsometer ─ any device used to measure usable tree height
11. Intermediate cutting ─ harvests taken from a stand of trees before the trees reach planned maturity
12. Timber stand improvement (TSI) ─ management practices to improve the quality of timber stands by promoting the vigor and productivity of healthy specimens and removing unhealthy ones
13. Tree ─ woody plants with single stems; they generally consist of three major parts – roots, trunk, and crown
14. Tree height ─ the length of the tree trunk from the point where it will be cut to the end of the last usable section to be kept

Unit 8: Fish and Wildlife

1. Amphibian ─ an animal that lives on land and in water; member of the vertebrate class Amphibia
2. Aquatic ─ an animal that lives in and depends on water for food and reproduction
3. Biennial ─ a plant that completes its life cycle in two years or growing seasons
4. Canopy ─ the uppermost layer of a forest that largely consists of the crowns of trees and any plants or animals that may live in tree crowns
5. Carrying capacity ─ the number of animals that a habitat can support
6. Community ─ a collection of plants and animals that live together in a certain harmony
7. Cover ─ shelter; protection from predators and weather
8. Domesticated animal ─ an animal removed from nature and raised in an environment that is more or less controlled
9. Ectothermic ─ an animal whose body temperature adjusts to its surroundings; cold-blooded
10. Edge ─ the location where two habitats meet
11. Endothermic ─ an animal that maintains a constant body temperature; warm-blooded
12. Habitat ─ the physical area where a plant or animal lives under natural conditions
13. Home range ─ the area over which animals repeatedly travel
14. Limnetic zone ─ the zone of a lake that extends from the end of rooted vegetation to the point where sunlight no longer penetrates the water
15. Littoral zone ─ shallow water zone containing rooted vegetation
16. Mammals ─ warm-blooded vertebrate animals characterized by hair on the skin and, in females, mammary glands for nourishing the young
17. Mast ─ nuts dropped from forest trees, which have accumulated on the ground and are used for food
18. Perennial ─ a plant that lives for more than two growing seasons or years
19. Population ─ the total number of people or animals in a location
20. Predator ─ an animal that consumes another

21. Prey ─ an animal consumed by a predator
22. Reptile ─ an animal that has dry skin covered with scales and, except snakes, has two pairs of legs with five clawed toes on each leg
23. Shrub ─ a perennial plant that grows less than 5 feet in height
24. Terrestrial ─ an animal that lives on the land
25. Territory ─ the area an animal will defend, usually to its death
26. Tree ─ a perennial with one woody stem that supports a crown
27. Understory ─ the layer located above the shrub layer but beneath the canopy
28. Vine ─ a plant that climbs or creeps on other plants, the ground, structures, or rocks
29. Wildlife ─ animals that have not been domesticated and live and survive in a natural environment
30. Wildlife animal ─ an animal that has not been domesticated

Unit 9: Planning for the Future

1. Conservation ─ the wise use of natural resources
2. Conservationist ─ a person who promotes the wise use of natural resources
3. Exploitation ─ the use of natural resources such as timber, minerals, and water; may be sustainable or non-sustainable
4. Preservation ─ the non-use or very limited use of a natural resource
5. Recycling ─ the reuse of a product or waste materials in making a product
6. Resource depletion ─ the act of using resources faster than they can be restored or replaced